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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/304,967 05/05/99 LOMONOSSOFF

G 50176-052

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HM22/0829

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EXAMINER

SANDALS, W

MCDERMOTT WILL & EMERY
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WASHINGTON DC 20005-3096

ART UNIT

PAPER NUMBER

1636

DATE MAILED: 08/29/01

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.
09/304,967

Applicant(s)
Lomonosoff et al.

Examiner
WILLIAM SANDALS

Art Unit
1636



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 27, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-27, 30-32, 36, and 37 is/are pending in the application.
- 4a) Of the above, claim(s) 20-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-32, 36, and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1448) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

Election/Restriction

1. Claims 20-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species associated with now cancelled claims of Group I, claims 1-19, 28 and 29, there being no allowable generic or linking claim. Election of Group II, claims 30-32, 36 and 37, was made **without** traverse in Paper No. 15, filed July 27, 2001.
2. Applicant's election without traverse of Group II, now claims 30-32, 36 and 37 in Paper No. 15 is acknowledged.

Priority

3. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification (37 CFR 1.78). The filing dates of Application Numbers 08/137,032, 08/612,858 and PCT/GB92/00589 are incorrect. In addition, the priority claim should be updated with the patent information for Application Number 08/137,032.

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Drawings

4. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

5. The use of the trademark GENE ASSEMBLER PLUS has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

6. The disclosure is objected to because of the following informalities: In the Brief Description of the Figures, Figures 2, 5, 6, 11, 13, 17 and 18 do not identify the sections A and B of the Figure at the heading of the description; for example "Figure 2 A and B".

Appropriate correction is required.

Claim Objections

7. Claim 32 is objected to because of the following informalities: Claim 32 depends from cancelled claim 3. It is assumed for the purposes of examination, that claim 32 depends from claim 30. Appropriate correction is required.

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Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 30-32, 36 and 37 are rejected under the judicially created doctrine of double patenting over claims 1-9 of U. S. Patent No. 5,874,087. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are drawn to a method for producing plant virus particles which comprise a nucleic acid coding for a foreign peptide inserted into the coding region of a viral coat protein, while the claims of U. S. Patent No. 5,874,087 are drawn to a method of inserting a foreign nucleic acid into the coding sequence of a viral coat protein, and expressing the virus. While the claims are not identical, the subject matter of the claims is not patentably distinct, since both the instant claims and the claims of U. S. Patent No. 5,874,087 are drawn to a method which results in the production of a virus which has the identical modification.

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10. Claims 30-32, 36 and 37 are rejected under the judicially created doctrine of double patenting over claims 22-28 of U. S. Patent No. 5,958,422. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are drawn to a method for producing plant virus particles which comprise a nucleic acid coding for a foreign peptide inserted into the coding region of a viral coat protein, while the claims of U. S. Patent No. 5,958,422 are drawn to a method of inserting a foreign nucleic acid into the coding sequence of a viral coat protein, and expressing the virus. While the claims are not identical, the subject matter of the claims is not patentably distinct, since both the instant claims and the claims of U. S. Patent No. 5,958,422 are drawn to a method which results in the production of a virus which has the identical modification.

11. Claims 30-32, 36 and 37 are rejected under the judicially created doctrine of double patenting over claims 20-23 of U. S. Patent No. 5,596,132. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are drawn to a method for producing plant virus particles which comprise a nucleic acid coding for a foreign peptide inserted into the coding region of a viral coat protein, while the claims of U. S. Patent No. 5,596,132 are drawn to a method of inserting a foreign nucleic acid into the coding sequence of a viral coat protein, and expressing the virus. While the claims are not identical, the subject matter of the claims is not patentably distinct, since both the instant claims and the claims of U. S. Patent No. 5,596,132 are drawn to a method which results in the production of a virus which has the identical modification.

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Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 30-32 and 36-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

14. Claim 30 recites the limitation "the coat protein" in line 2. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 30 recites the limitation "the coat protein" in line 5. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 30 recites the limitation "said site of said insert" in line 6. There is insufficient antecedent basis for this limitation in the claim.

17. Claim 30 recites the limitation "the modified virus" in line 9. There is insufficient antecedent basis for this limitation in the claim.

18. Claim 32 recites a method which is dependent upon claim 3 (assumed to be claim 30) which comprises introducing a nucleic acid coding for a foreign peptide to modify the plant viral nucleic acid and to harvest the modified plant virus. It is unclear how this additional step is meant to modify the base claim. Does the method of claim 32 replace the method of claim 30 or

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does it modify the claim 30? If it modifies claim 30, then how does the step of introducing the nucleic acid fit with the step of inserting of claim 30? These issues are unclear, and the claim is vague and indefinite.

Claim Rejections - 35 USC § 102

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

20. Claims 30-32 and 36-37 are rejected under 35 U.S.C. 102(e) as being anticipated by US 5,316,931.

US 5,316,931 taught (see especially the abstract and columns 5, 6, 8, 9, 11, 12 and 14) a method for producing plant virus particles in a plant infected with a modified virus comprising modified viral nucleic acid which encoded a foreign peptide which was inserted in a site in a viral nucleic acid sequence coding for a viral coat protein. The sequence was inserted into restriction enzyme sites in the viral nucleic acid which encodes the coat protein. The foreign nucleic acid insert is free of flanking direct repeats. The modified virus was harvested.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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21. Claims 30-32 and 36-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Chapman et al.

Chapman et al. taught (see especially the summary, introduction, materials and methods and page 553) a method for producing plant virus particles in a plant infected with a modified virus comprising modified viral nucleic acid which encoded a foreign peptide which was inserted in a site in a viral nucleic acid sequence coding for a viral coat protein. The sequence was inserted into restriction enzyme sites in the viral nucleic acid which encodes the coat protein. The foreign nucleic acid insert is free of flanking direct repeats. The modified virus was harvested.

Conclusion

22. Certain papers related to this application are *welcomed* to be submitted to Art Unit 1636 by facsimile transmission. The FAX numbers are (703) 308-4242 and 305-3014. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If applicant *does* submit a paper by FAX, the original copy should be retained by the applicant or applicant's representative, and the FAX receipt from your FAX machine is proof of delivery. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office.

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Any inquiry concerning this communication or earlier communications should be directed to Dr. William Sandals whose telephone number is (703) 305-1982. The examiner normally can be reached Monday through Friday from 8:30 AM to 5:00 PM, EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Schwartzman can be reached at (703) 308-7307.

Any inquiry of a general nature or relating to the status of this application should be directed to the Zeta Adams, whose telephone number is (703) 305-3291.

William Sandals, Ph.D.

Examiner

August 20, 2001


TERRY MCKELVEY
PRIMARY EXAMINER

1. Document ID: US 6225528 B1

Nov 14, 2000

L9: Entry 1 of 52

File: USPT

May 1, 2001

US-PAT-NO: 6225528

DOCUMENT-IDENTIFIER: US 6225528 B1

TITLE: Method of making pathogen-resistant plants by transformation with a fatty acid desaturase

gene

DATE-ISSUED: May 1, 2001

US-CL-CURRENT: 800/279

APPL-NO: 9/ 143567

DATE FILED: August 28, 1998

PARENT-CASE:

This application claims priority to U.S. Provisional Application No. 60/057,510, filed Sep. 4, 1997, which is incorporated by reference herein.

IN: Chin; Chee-Kok, Wang; Chunlin, Xing; Jinsong

AB: The present invention provides pathogen-resistant transgenic plants and methods of making the plants. The transgenic plants display enhanced resistance to a variety of fungal, bacterial and viral plant pathogens due to expression of a gene that increases the unsaturated fatty acid content of the plant's cells, as compared with an equivalent, but non-transformed plant. The preferred embodiment of the invention is a plant expressing a heterologous $\Delta 9$ desaturase gene from yeast, which particularly increases cytosolic quantities of 16:1, 16:2 and 18:1 fatty acids.

L9: Entry 1 of 52

File: USPT

May 1, 2001

DOCUMENT-IDENTIFIER: US 6225528 B1

TITLE: Method of making pathogen-resistant plants by transformation with a fatty acid desaturase gene

ABPL:

The present invention provides pathogen-resistant transgenic plants and methods of making the plants. The transgenic plants display enhanced resistance to a variety of fungal, bacterial and viral plant pathogens due to expression of a gene that increases the unsaturated fatty acid content of the plant's cells, as compared with an equivalent, but non-transformed plant. The preferred embodiment of the invention is a plant expressing a heterologous $\Delta 9$ desaturase gene from yeast, which particularly increases cytosolic quantities of 16:1, 16:2 and 18:1 fatty acids.

2. Document ID: US 6147278 A

L9: Entry 2 of 52

File: USPT

US-PAT-NO: 6147278

DOCUMENT-IDENTIFIER: US 6147278 A

TITLE: Plant vectors

DATE-ISSUED: November 14, 2000

US-CL-CURRENT: 800/278; 435/320.1, 435/468, 435/469, 435/69.1, 536/23.72, 800/288

APPL-NO: 9/ 261770

DATE FILED: March 3, 1999

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This application is a continuation of application Ser. No.

07/711,576 filed May 31, 1991, now abandoned, which is a continuation of application Ser. No.

07/209,239 filed Jun. 26, 1988, now abandoned, which is a continuation-in-part of application

Ser. No. 06/899,270 filed Aug. 26, 1986, now abandoned, which is a continuation-in-part of

application Ser. No. 06/791,249 filed Oct. 25, 1985, now abandoned.

IN: Rogers; Stephen G., Brand; Leslie, Horsch; Robert B., Fraley; Robert T., Elmer; James Scott, Bisaro; David

AB: The invention relates to novel plant plasmid vectors comprising geminivirus DNA or a portion thereof having inserted therein a heterologous DNA sequence or gene, to processes and DNA intermediates useful in producing said vectors and to methods utilizing such vectors to replicate and express heterologous DNA sequences or genes in plants. In some embodiments, methods and compositions are provided for Ti plasmid delivery of these novel vectors into plants. In other embodiments, methods and compositions are provided which allow for the generation of geminivirus DNA containing plant plasmids in stably transformed plants. In still other embodiments, methods and compositions are provided for replicating and expressing heterologous DNA sequences or genes in plants employing the geminivirus DNA containing vectors of the present invention without causing disease symptoms.

L9: Entry 2 of 52

File: USPT

Nov 14, 2000

DOCUMENT-IDENTIFIER: US 6147278 A

TITLE: Plant vectors

DEPR:

While neither the transgenic A- or B-containing plants exhibited virus disease symptoms, it was demonstrated, in Example 14, supra, that inoculation of B-containing plants with vectors

comprising the TGMV A-component subsequently displayed virus symptoms. Subsequent experiments by

Sunter et al (1987) have shown that one-quarter of the progeny produced by crossing a transgenic

A plant with a transgenic B plant show geminivirus symptoms and contain infectious virus

particles. These results show that the integrated tandem copies of the TGMV DNA's are functional,

are able to be released from their integrated state and maintain their ability to produce

infectious virus when genetically combined in the same cell. These results further demonstrate

that the A component contains the necessary sequences and/or genes to

09/304967
A H # 16

Set Items Description

? s plant or plants

667272 PLANT
2159080 PLANTS
S1 2387728 PLANT OR PLANTS
? s virus? or viral?

1302614 VIRUS?
530308 VIRAL?
S2 1415137 VIRUS? OR VIRAL?
? s display?

S3 352757 DISPLAY?
? s insert?

S4 265542 INSERT?
? s s1 and s2 and s3

2387728 S1
1415137 S2
352757 S3
S5 1024 S1 AND S2 AND S3
? s s1 and s2 and s4

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u!
? s s1 and s2 and s4

2387728 S1
1415137 S2
265542 S4
S6 1850 S1 AND S2 AND S4
? s s5 or s6

1024 S5
1850 S6
S7 2824 S5 OR S6
? s peptide

S8 588859 PEPTIDE
? s foreign

S9 91606 FOREIGN
? s s1 and s2 and s3 and s8

2387728 S1
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2387728 S1
1415137 S2
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91606 S9
S11 16 S1 AND S2 AND S3 AND S9
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2387728 S1
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265542 S4
588859 S8
S12 130 S1 AND S2 AND S4 AND S8
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2387728 S1

1415137 S2
265542 S4
91606 S9
S14 197 S1 AND S2 AND S4 AND S9
? ds

Set Items Description
S1 2387728 PLANT OR PLANTS
S2 1415137 VIRUS? OR VIRAL?
S3 352757 DISPLAY?
S4 265542 INSERT?
S5 1024 S1 AND S2 AND S3
S6 1850 S1 AND S2 AND S4
S7 2824 S5 OR S6
S8 588859 PEPTIDE
S9 91606 FOREIGN
S10 79 S1 AND S2 AND S3 AND S8
S11 16 S1 AND S2 AND S3 AND S9
S12 130 S1 AND S2 AND S4 AND S8
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S14 197 S1 AND S2 AND S4 AND S9
? s s10 or s11 or s12 or s14

79 S10
16 S11
130 S12
197 S14
S15 376 S10 OR S11 OR S12 OR S14
? rd

...examined 50 records (50)
...examined 50 records (100)
...examined 50 records (150)
...examined 50 records (200)
...examined 50 records (250)
...examined 50 records (300)
...examined 50 records (350)
...completed examining records
S16 287 RD (unique items)
? s s16 and py<1993

Processing
287 S16
21486062 PY<1993
S17 126 S16 AND PY<1993
? t s17/3,ab/1-126

17/3,AB/1 (Item 1 from file: 5)
DIALOG(R)File 5: Biosis Previews(R)
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08756391 BIOSIS NO.: 199395045742
Tagging of %%%plant%% potyvirus replication and movement by
%%insertion%% of beta-glucuronidase into the %%%viral%%
polyprotein.
AUTHOR: Dolja Valerian V; McBride Helen J; Carrington James C
AUTHOR ADDRESS: Dep. Biol., Texas A and M University, College
Station,
Texas 77843**USA
JOURNAL: Proceedings of the National Academy of Sciences of the United
States of America 89 (21):p10208-10212 %%%1992%%
ISSN: 0027-8424
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Infectious RNA transcripts were generated from full-length
cDNA
clones of the tobacco etch potyvirus genome containing an
%%insertion%%
of the bacterial beta-glucuronidase (GUS) gene between the
polyprotein-coding sequences for the N-terminal 35-kDa proteinase and the
helper component-proteinase. The recombinant %%%virus%% was able
to
spread systemically in %%%plants%% and accumulated to a level
comparable